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To: U.S. Patent and Trademark Office
Fax. No.:   (571) 273-8300
From: John C. Gorecki
Date: March 8, 2007

Number of pages including this cover sheet: 16

Re:

Applicant:	Luc Beaudoin, et al.	Examiner:	A. TAN
Serial No.:	10/025,925	Art Unit:	2173
Filed:	December 26, 2001	Attorney Docket No.:	14538ROUS02U
Title:	OVERLAY VIEW METHOD AND SYSTEM FOR REPRESENTING NETWORK TOPOLOGY		

The Following Documents are attached

- Transmittal Letter (1 page in duplicate)
- Credit Card Authorization for Appeal fee and one month extension of time (1 page)
- Appeal Brief (7 pages)
- Appendix A – Pending Claims (5 pages)

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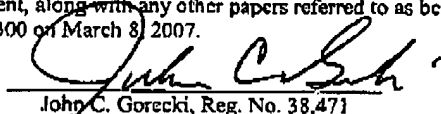
John C. Gorecki, Reg. No. 38,471

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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M.S. Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

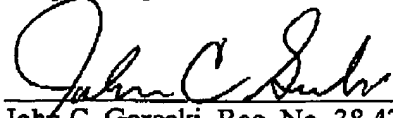## TRANSMITTAL LETTER

Transmitted herewith is:

- Appeal Brief and Appendixes (12 pages)

The fee has been calculated and is transmitted as shown below:

	Number of Claims Remaining After Amendment	Highest Number of Claims previously paid for	Number of Extra Claims Present	Rate	Additional Fee
Total Claims	26	26	0	x $50.00	$0
Independent Claims	3	3	0	x $200.00	$0
Applicants respectfully request a one month extension of time					$120.00
Fee for filing appeal brief					$500.00
TOTAL ADDITIONAL FEES FOR THIS AMENDMENT					$620.00

A credit card authorization for payment of the required fees is enclosed. If any additional fees are due, the Commissioner is hereby authorized to charge payment of the fees associated with this communication or credit any overpayment to Deposit Account No. 502246 (Ref. NN-14538). A duplicate copy of this sheet is enclosed.

Respectfully Submitted

John C. Gorecki, Reg. No. 38,471

Dated: March 8, 2007

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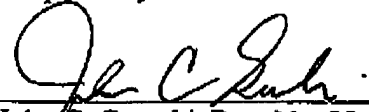
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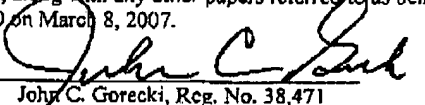John C. Gorecki, Reg. No. 38,471

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Luc Beaudoin, et al. Examiner: A. TAN
Serial No.: 10/025,925 Art Unit: 2173
Filed: December 26, 2001 Attorney Docket No.: 14538ROUS02U
Title: OVERLAY VIEW METHOD AND SYSTEM FOR REPRESENTING NETWORK TOPOLOGY

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M.S. Appeal Brief-Patents
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APPEAL BRIEF

(i) Real Party In Interest

This application is owned by Nortel Networks, Limited, of St. Laurent, Quebec,

CANADA.

(ii) Related Appeals and Interferences

None

(iii) Status of Claims

Claims 1-20 have been canceled.

Claims 21-46 are pending in the application and stand rejected.

(iv) Status of Amendments

There are no un-entered amendments.

(v) Summary of Claimed Subject Matter

This invention relates to a method and system for representing and maintaining network

layouts. As networks get complicated, the amount of information that may be displayed on a

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management display system increases, which makes it more difficult to isolate any given aspect of the network architecture. To differentiate the different aspects of the network, network management systems generally used different views to sequentially display different aspects of the network. (See e.g., Specification at page 3, lines 22-27). Thus, in previous systems, if a network manager wanted to understand how different aspects of the network worked together, the network manager would be required to sequentially view screens showing the different aspects of the network and build a mental picture of the network. Id.

Applicants came up with a way to more effectively present network information by enabling a network manager to select which portions of the network information should be hidden, which should be displayed as background information (see e.g. Specification at page 11, lines 20-30), and which should be displayed as foreground information. (See e.g. Specification at page 12, lines 16-30). For example, the physical network topography may be presented as a grayed out background image representation while a management view of the network may be displayed over the background network image representation as a foreground image representation using more saturated colors. (Specification at page 13, lines 4-10, and lines 14-16).

Since the network elements and links may not take up the entire screen, applicants further allow the management view to include a background, such as a geographical map or saturated color. (Specification page 17, lines 19-23). Thus, there are three layers of information in applicant's system a background 24 which may be a map for example, a reference view 42 or background network image; and an overlay subset 40 or foreground image. (Specification at page 17, line 4 to page 18, line 3). The top level is the overlay subset 40, which is the portion of the network that is in the foreground and represented, for example, using a saturated color format. The second level is the reference view, which is the portion of the network information that is used to show the contextual information, and is shown as the grayed out network image. The third level is the background, which may be a geographical map, a saturated color, a custom pattern, or other background. (Specification at page 17, lines 19-23). The network manager thus may decide (1) what the background should look like, such as whether a map should be shown, (2) which aspects of the network should be completely hidden and not shown in the display, (3) which aspects of the network should be shown but not emphasized by being included in the

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reference view (or background network image), and (4) which aspects of the network should be shown in the foreground network image (in the overlay subset).

(vi)   Grounds of Rejection to be Reviewed on Appeal.

Whether claims 21-42, 44, and 46 are anticipated under 35 U.S.C. 102 over Becker et al., *Visualizing Network Data*, IEEE Transactions on Visualization and Computer Graphics, Vol. 1, No. 1, March 1995;

Whether claim 43 is unpatenatable under U.S.C. 103 over Becker in view of Bishop et al. (U.S. Patent No. 5,729,250); and

Whether claim 45 is unpatenatable under U.S.C. 103 over Becker in view of Cox et al., *3D Geographic Network Displays*, Sigmod Record, Volume 24, Number 4, December 1996.

(vii)   Argument

Claims 20-42, 44, and 46

Becker teaches a visualization system in which an image of a map, such as a map of the United States or the World is displayed as a background on a GUI. (See Becker, Fig. 7). Nodes on a communication network are shown in their corresponding geographical location on the map. In Fig. 7, the nodes are shown in blue in a saturated color. Becker does not show how the nodes are interconnected. Specifically, the display in Becker does not show any lines between the blue dots to show the links that actually physically interconnect the nodes. Thus, Becker does not show links between the nodes. The display in Becker includes lines that radiate out of one node and are colored to show the percentage of idle capacity between the node at the center of the radiating lines and the other nodes on the network. When one of the lines happens to pass over another intermediate node, the display shows the blue node rather than the line. For example, Fig. 7 shows the percentage idle capacity into and out of Chicago. Thus, all lines radiate out of Chicago. The line between Miami to Chicago is colored yellow and passes over 7 intermediate nodes, all of which appear as blue dots on the yellow line.

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Independent claim 21 recites a method including the steps of:

- presenting a background image representation of at least a first of the aspects of the telecommunication network, said first aspect being a physical network topology of the telecommunication network; and

- presenting a foreground image representation of at least a second of the aspects of the telecommunication network over the background image representation, said second of the aspects being a management view of the telecommunication network and being user-selectable.

The Examiner has taken the position, that "Becker teaches a background image of the United States and the location of the nodes and links with respect to the background image [figure 7] as the physical network topology." (Office Action at page 14, lines 16-18) Applicants respectfully submit that Becker's map is not a "physical network topology of the telecommunications network" as that phrase is used in the claims.

Specifically, as discussed above, both applicants and Becker teach that the display may contain a map. In this application, applicants teach that the map may be displayed as a background on the GUI. (Specification at page 11, lines 24-26, and page 17, lines 19-23). However, applicants then describe and claim that the display includes two additional image representations, a first image representation being a background image representation of a physical network topology, and a second image representation being a foreground image representation of a management view of the network. The map of the United States or the map of the World in Becker does not qualify as physical topology of the network. Rather, Becker's map corresponds to applicant's background 24 which is not claimed in claim 21.

The Examiner also indicated that the nodes on the map are part of the physical network topology. (Office Action at page 3, lines 1-3). The nodes, as shown in Fig. 7 of Becker, are actually shown in the foreground rather than the background and, as such, cannot be considered part of a background image representation. Specifically, the nodes in Fig. 7 are shown in a saturated color (blue) and, as is apparent, are shown on top of the lines interconnecting the various nodes. Specifically, the nodes (blue dots) appear on top of the yellow and red lines radiating from Chicago to several of the other cities in the United States. Thus, the nodes may not be considered part of the background representation but rather appear to be displayed in front of all other information in the display. Thus, Becker does not teach or suggest presenting a

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background image representation of a physical network topology of a telecommunication network as claimed in claim 21. Accordingly, applicants respectfully submit that the rejection over Becker should be reversed.

Additionally, the mere placement of nodes on a map of the United States does not constitute a physical network topology as that term is used in this application. In the first paragraph of the background of this application, applicants state that "A global network generally consists of nodes and links, which describe the network topology..." (Specification at page 1, lines 12-13). Thus, the word topology is used in this application to describe both the nodes and the links that interconnect those nodes.

Fig. 7, which was cited by the Examiner, does not show any links interconnecting the nodes. Rather, Fig. 7 shows the percentage idle capacity between Chicago and all other nodes on the network by drawing different color straight lines between Chicago and the other nodes. The actual way in which the nodes are connected, however, is not shown. Becker thus teaches the placement of nodes on a map, but does not show the links interconnecting those nodes. Since the term "network topology" includes both nodes and links, applicants respectfully submit that Becker does not teach or suggest the display of a physical network topology as that term is defined in this application. For this additional reason, applicants respectfully submit that Becker fails to anticipate the claims of this application, and that the rejection of the claims should be reversed.

The Examiner has also taken the position that Becker teaches that links with a higher percentage of idle capacity are shown above those with a lower percentage of idle capacity. Specifically, the Examiner has taken the position that Becker teaches "foreground image representation of links containing certain properties such as links with a high percentage of idle capacity (red), are shown above those with a lower percentage of idle capacity. Hence, the higher percentage links are shown in the foreground and the lower percentage ones, in the background." (Office Action at page 15, lines 1-5). Thus, it appears that the Examiner is taking the position that some of the lower percentage links constitute part of the background image representation.

Although it is not clear to whether the Examiner is correct, and that some of the links are shown on top of others, assuming that this is the case, applicants submit that Becker still does not anticipate claim 21 as drafted. Specifically, claim 21 recites that the background image

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representation is a physical network topology of the telecommunications network, and that the foreground image representation is a management view of the telecommunications network. The colors in Becker all represent the percentage available capacity between nodes in the network. Regardless of whether some of the colors appear in front of the other colors, the colored lines are all being used to show one aspect of the network performance. Thus, even if red is shown on top of yellow in Fig. 7, Becker still fails to anticipate the claims of the application because the lines in the background are not used to show the network topology.

Moreover, the amount of available capacity on the network is not a "management view" of the network topology. Specifically, applicants differentiate the term "topology" from the term "attribute" (Specification at page 1, lines 12-13) and state that the topology includes nodes and links, whereas "attributes" comprise the network data. The amount of idle capacity on a link would therefore be an "attribute" of the network, not a "management view" of the network topology as claimed. Thus, the lines radiating from Chicago in Fig. 7 of Becker do not represent a "management view" of the "network topology", but rather represent attributes of the current network traffic. For this additional reason, applicants respectfully request that the rejection of the claims over Becker be reversed.

Claims 43 and 45

Claims 43 and 45 are dependent claims. Since the independent claims are patentable as set forth above, the rejections of these claims should be reversed as well.

(viii)   Claims Appendix

An appendix containing the current version of all pending claims is attached.

(ix)   Evidence Appendix

None.

(x)   Related Proceedings Appendix

None

Conclusion

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Applicants respectfully request that the rejection of claims 21-42, 44, and 46 under 35 U.S.C. 102 over Becker be reversed. Applicants also respectfully request that the rejection of claim 43 under U.S.C. 103 over Becker and Bishop be reversed. Applicants also respectfully request that the rejection of claim 43 under U.S.C. 103 over Becker and Cox be reversed.

If any fees are due in connection with this filing, the Commissioner is hereby authorized to charge payment of the fees associated with this communication or credit any overpayment to Deposit Account No. 502246 (Ref: NN-14538).

Respectfully Submitted

Dated: March 8, 2007

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APPENDIX – PENDING CLAIMS

1-20. (Canceled).

21. A method for enabling differential visualization on a display of a plurality of aspects of a telecommunication network, said method comprising the steps of:

presenting a background image representation of at least a first of the aspects of the telecommunication network, said first aspect being a physical network topology of the telecommunication network; and

presenting a foreground image representation of at least a second of the aspects of the telecommunication network over the background image representation, said second of the aspects being a management view of the telecommunication network and being user-selectable.

22. The method of claim 21, wherein the background image representation is generated from an information set associated with the telecommunication network such that the background image representation contains less than a complete visual representation of the telecommunications network topology.

23. The method of claim 21, wherein the background image representation is a combination of a plurality of unselected views of the telecommunication network and wherein the foreground image representation is at least one selected views of the telecommunication network.

24. The method of claim 23, wherein the step of presenting the foreground image representation comprises displaying the at least one selected view in a distinguishable fashion from the combination of unselected network views forming the background image representation to enable the at least one selected view of the telecommunication network to be viewed in context of information contained in the background image representation.

25. The method of claim 23, further comprising the step of moving at least one of the unselected views of the telecommunication network from at least one of the background image representation to the foreground image representation, and the step of moving at least one of the

selected views of the telecommunication network from the foreground image representation to the background image representation.

26. The method of claim 25, wherein the step of moving is performed upon receipt of input from an user of a network management tool.

27. The method of claim 21, wherein the background image representation is a reference view of a base model representation; and wherein the foreground image representation is an overlay view of the base model representation.

28. The method of claim 21, wherein the background image representation is grayed out relative to the foreground image representation.

29. The method of claim 21, further comprising the step of presenting at least one user-selected logical network topology.

30. The method of claim 21, wherein the background image representation and foreground image representation allow simultaneous displays of representations of multiple network technologies available on the telecommunication network.

31. The method of claim 21, further comprising the step of enabling a combination of the background and foreground images to be visible via a Graphical User Interface (GUI) of a network management tool.

32. The method of claim 31, wherein the first aspects and second aspect are user-selectable from the plurality of aspects of the telecommunication network via the GUI.

33. The method of claim 21, wherein the first aspect represents physical devices in the telecommunication network and wherein the second aspect represents attributes of the physical devices.

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34. The method of claim 21, wherein the foreground image representation is a composite of multiple individual representations of one or more of the aspects of the telecommunication network.

35. A network management tool, comprising:

a display;

a Graphical User Interface (GUI) available via a window on said display, said graphical user interface being configured to provide a network manager with an ability to simultaneously display a reference view of a managed telecommunication network, said reference view describing at least a portion of a physical network topology of the managed telecommunication network, and an user-selectable overlay view of the managed telecommunication network in a distinguishable fashion in said window, said user-selectable overlay view describing at least a management view of the managed telecommunication network.

36. The network management tool of claim 35, wherein the reference view and overlay view together comprise a plurality of user selectable aspects of the managed telecommunication network, and wherein the GUI is configured such that the user may choose which aspects should be used to generate at least one of the reference view and the overlay view.

37. The network management tool of claim 35, wherein the overlay view is displayed in relief relative to the reference view.

38. The network management tool of claim 35, wherein the reference view is a view of a base model representation of a network layout containing information about network devices and attributes of the network devices.

39. The network management tool of claim 38, wherein the base model representation is generated from a network information set containing complete information about the underlying telecommunication network, and wherein the base model representation represents less than all of the information contained in the network information set.

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40. The network management tool of claim 39, wherein the GUI enables multiple versions of the base model representation to be generated from different aspects of the information contained in the telecommunication information under the control of the user.

41. The network management tool of claim 39, wherein the GUI enables instructions to be input from a user to enable the user to alter the appearance of the base model representation by selecting different subsets of information from the network information set to be used to generate the base model representation.

42. The network management tool of claim 41, wherein the network information set comprises physical topography information associated with network elements on the telecommunication network, logical interconnection information associated with the telecommunication network, status information associated with the network elements, and performance attributes associated with the network elements.

43. The network management tool of claim 35, wherein the display is touch sensitive such that the display is an input device.

44. A method for presenting a visual representation on a display of a telecommunication network layout, said method comprising the steps of:

obtaining an information set containing information relevant to the telecommunication network layout;

generating a representation of at least a portion of the information set, said representation having a background image portion indicative of at least a first aspect of the telecommunication network layout, said background image being derived from at least a first data subset of the information set and representing at least a portion of a physical network topology of the telecommunication network layout, and said representation having a foreground image indicative of at least a second aspect of the telecommunication network layout, said foreground image being user-selectable and derived from at least a second data subset of the information set, said foreground image including a management view of the telecommunication network.

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45. The method of claim 44, wherein the background image is presented in a diluted color format and wherein the foreground image is presented in a saturated color format.

46. The method of claim 44, wherein at least one of the first and second data subsets are selectable by an user to enable the user to control the appearance of at least one of the foreground image and background image.

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